

**Tool 5.2**

Taking local action for climate-resilience

CLARITY Competence Area:

Taking collective action for climate resilience, ecosystem regeneration, and societal transformation

GreenComp Competence Area:

Acting for sustainability

Why use this tool?

This tool introduces activities that can help actively build the climate resilience of the local community and local ecosystems now and in the long run. They contribute to re-building a community of support, and to restoring the health of local ecosystems. Besides, this tool fosters agency by increasing the learner's confidence that they themselves can make a difference. They also build collaborative competences that are critical to pursue collective action in any field.

Activity 5.2.1

Explore and support ecosystems

Overview

This activity contributes to getting to know a specific ecosystem in the local area, and supports the taking of collective action to support/nurture that ecosystem. Knowing the local ecosystem is foundational to understanding the local impacts of climate change, and to imagining various solutions to address them.

Curriculum linkage

Natural Science, Mathematics and Cross-Curricular & Global Competencies

Competences built

Regenerative thinking, collaboration, care, societal agency, innovation and courage.

Prep Work

Some supportive efforts may require prep work (see below).

Steps in the activity

1. Explore
2. Support
3. Evaluate



BASIC INFO

Age range:

6+

Duration:

3 h-3 days

Group size:

Flexible. Classroom or school-wide participation

Level of difficulty:

Advanced

Materials/space required:

Microscope, binoculars, apps/books to identify species

Location:

Local ecosystem

Engagement of external stakeholders:

A local ecosystem expert could be useful



Step 1: Explore

1. **Choose a local ecosystem/ nature area** you want to explore and support. You could start by asking if there is a natural area that the learners spend time in or care about. In the countryside you may choose a field, a forest, a lake, or a beach. In a more urban environment, you could select a garden, a park, a roadside, or a riverbank. Ask the learners to research the chosen ecosystem on their own or in groups to prepare for the visit.
2. **Visit your selected ecosystem/nature area** and explore what is there. Ask the learners to document the life they find there, focusing on plants, fungi or animals, depending on the ecosystem.
 - a. Let's say your ecosystem is the lawn surrounding the school. Then you could look for plants and animals, but you might not find many, so you could go deeper, dig in the soil and look for worms or other insects. If you have a microscope, you could take a soil sample and see if you find any small organisms in the soil.
 - b. If your ecosystem is a (semi)natural flower field, on the other hand, there would probably be lots of species to document. Different groups of learners could register flowers, bees and bumblebees, birds, butterflies, and trees/bushes. Photograph the species you find. The learners can use an app to find the name of the different species, or check in books when they return to school.

Step 2: Support

1. Start with a **movement game** where you mimic each other and reflect on how mimicking nature can be a way of supporting ecosystems.
 - a. The learners work in pairs.
 - b. One moves slowly and the other mimics the movements. The objective of this game is to experience the joy of doing something together, and the challenge is to move in such a synchronized way that someone watching could not identify the one moving from the one mimicking.
2. Ask the question "How can we find solutions by mimicking nature?"
3. **Brainstorm** what you can do to support your chosen ecosystem. Ask the learner additional questions such as:
 - a. Did you see any problems during your visit? (pollution or trash, for example)



- b.** Has any of the learners visited this ecosystem before, and if so, could they see any changes over time?
 - c.** Are there any plans to develop this ecosystem in unsustainable ways?
 - d.** During the exploration, were there species that you expected to find but actually did *not* see? This might be a sign that this species is struggling.
- 4.** **Discuss and decide collectively** the kind of support you can offer the ecosystem, if it needs any. The type of support that an ecosystem could benefit from will depend on the local situation. Hence learners need to get to know the ecosystem before taking action - or *not* taking action. Sometimes leaving nature alone is the best thing we can do to support it.
- 5.** Explore suggestions below for supportive measures for a land-based and a water-based ecosystem.
- 6.** For a land-based ecosystem, such as a lawn, possible actions are:
 - a. Do nothing:** Let the lawn grow by *not* cutting the grass. If there are any flowers in the lawn, this non-action allows them to bloom and feed the pollinators.
 - b. Rewild:** Collect or buy local flower seeds and spread them on the lawn to boost the diversity of flowers in the ecosystem.
 - c. Mimic a healthy ecosystem:** If you are in a dry area, where the lawn requires artificial watering, replacing the lawn with local drought resistant grasses might be the best way to support the ecosystem.
- 7.** For a lake or river, possible actions include:
 - a. Take political action:** If the lake/river is polluted, identifying the source and speaking up about the problem could make a difference.
 - b. Rewild:** If any local species have disappeared from the lake/river, addressing the reason for this, and then reintroducing the species could be beneficial, but the act of reintroducing a species could need approval from local authorities.
 - c. Mimic a healthy ecosystem:** If the lake/river is prone to erosion, planting native trees on its banks could be helpful.

Step 2: Evaluate

- 1.** Make sure your supportive (non)actions are actually beneficial to the ecosystem. Before you take action, make a plan for how to evaluate how your effort impacts the ecosystem. This can involve preparing **a research**



design to help learners track any changes in the ecosystem. Suggestions for research designs include:

- a. Before and after studies of the same ecosystem.
 - b. Comparing the ecosystem you are supporting to a similar ecosystem that was left on its own.
 - c. Implementing your supportive effort on parts of the ecosystem, and comparing the different parts.
2. **Make sure you collect data** on diversity (how many different species can you find) and/or abundance (how large are the populations of different species), for example by counting species/individuals or making recordings of bird sounds.
3. Strive to **visualize and compare** collected data using graphs and creative expressions.

When your (non)actions are successful, think of ways to scale up your efforts. For example, if the lawn outside the school transforms from a monoculture to a diverse and abundant flower field, invite parents to observe the result, present your research, and encourage them to replicate the approach.



Dos and don'ts

Do:

Do not harm nature. You need to get to know the ecosystem well before you can offer any support. If you are unsure that your planned action will be beneficial to the ecosystem, confirm with a local ecosystem expert before you start.

Adaptations:

- Use visual support if needed. Include photo cards or printed visual field guides for learners who struggle with reading or abstract concepts.
- Offer seated or shorter-distance alternatives. Choose a location based on your specific group of learners. Allow some learners to explore just a small patch of the area or to observe collected samples indoors if mobility or fatigue is a barrier.
- We invite you to adapt this activity to the specific needs of your learners, including by taking into account their neurodiversity. When adapting tools and activities for neurodivergent learners, please note it is not about treating others how you want to be treated, but how they want to be treated. Ask, listen, and stay open to different ways of learning and engaging.



References

This activity was designed by Climate Creativity.

- Check out this link for examples of biomimicry:
<https://www.learnbiomimicry.com/blog/best-biomimicry-examples>
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<https://naturalengland.blog.gov.uk/2023/05/16/children-nature-programme-the-importance-of-integrating-time-spent-in-nature-at-school/>
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